

Slip May 15

# Work Order ID 84079

\*84079\*

Page 1

Wednesday, May 02, 2012 1:06:55 PM

Item ID: D3690-1 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Glareshield  
 Start Date: 5/2/2012 Start Qty: 4.00 \*4\* Cust Item ID:  
 Required Date: 5/8/2012 Req'd Qty: 4.00 \*4\* Customer:  
 Reference:

Approvals: Process Plan:                      Date: 12-05-2 Tooling:                      Date:                      Run Start \*NR1\*  
 QC:                      Date:                      SPC (Y/N):                      Date:                      Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3690	Rev C								

100 0.00  
 \*100\* HAND FINISHING THERMOFORMING  
 Thermoform Memo 0.00  
 Thermoforming Machine Set up machine frame and program as per Folio FTA 019  
 X4 Dh 12/04/14

110 0.00  
 \*110\* HAND FINISHING THERMOFORMING  
 Thermoform Memo 0.00  
 Thermoforming Machine Cut Blanks to fit frame size 69.5" X 35.5"  
 X4 Dh 12/06/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 84079**

Wednesday, May 02, 2012 1:06:55 PM

**\*84079\***

Page 2

Item ID: D3690-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Glareshield

Start Date: 5/2/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 5/8/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
115		0.00							
<b>*115*</b>	Dry Material					x4			DL 12/06/14
HandThermo	Memo	0.00							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								
	Temp: 240°F								
	Time IN: 7:00 pm 12/06/13								
	Time OUT: 7:00 am 12/06/14								
120		0.00							
<b>*120*</b>	THERMOFORMING MACHINE					x4			DL 12/06/14
Thermoform	Memo	0.00							
Thermoforming Machine	Thermoform as per Dwg. D3690-1 and Folio FTA 019 Dwg. Rev.								
	<u>C</u> Folio Rev. <u>C</u>								
130		0.00							
<b>*130*</b>	QC2- Inspect parts off machine FAI/FAIR					x4			DL 12/06/14
QC	Memo	0.00							
Quality Control	Visually inspect for proper formation of each part								

W/O:		WORK ORDER CHANGES					
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**\*84079\***

Wednesday, May 02, 2012 1:06:55 PM

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 5/2/2012      **Start Qty:** 4.00      **\*4\***

**Cust Item ID:**

**Required Date: 5/8/2012      Req'd Qty: 4.00      \* / \***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

OC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

140 OC8- Inspect parts - second check

0.00

**\*140\***

QC

## Memo

0.00

## Quality Control

150

0.00

**\*150\***

## Thermoform

## HAND FINISHING THERMOFORMING

## Memo

0.00

### Thermoforming Machine

Trim to Finished Dimensions as per dwg D3690 using DT9036 / DT9043 template

160

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*160\***

QC

## Memo

0.00

### Quality Control

W/O:		WORK ORDER CHANGES					
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# Work Order ID 84079



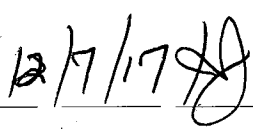
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**\*84079\***

Page 4

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 <b>*170*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
180 <b>*180*</b> Packaging Packaging	Identify as per dwg & Stock Location: <u>GA</u>  Memo	0.00 0.00				4			 12/07/16
190 <b>*190*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							 MF 12-07-16

W/O:		WORK ORDER CHANGES					
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# Picklist Print

Wednesday, May 02, 2012 1:06:59 PM

Page 1

Work Order ID: 84079

\*84079\*

Parent Item: D3690-1

\*D3690-1\*

Parent Item Name: Glareshield

Start Date: 5/2/2012

Required Date: 5/8/2012

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev A New Issue 08/04/28 DL verified by:DD  
IPP Rev:B 08-07-14 revB as per dwg DD verified by:ec  
IPP Rev:C 08-10-07 revC as per dwg DD verified by:EC Ipp Rev. D  
Add Step 115 Dry Material 10/04/21 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-02		Purchased			No		sf	272.7275		105.2926			

\*MI FXS 093-F6006-02\*

GE PLASTICS LEXAN SHEET

\*\*

Location

therm

Loc Qty

272.7274879

Loc Code

106751

97.9159079

110877

174.81158

B 122033

105.30 sq ft

Wh  
12/06/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	<i>84079</i>
<b>Description:</b> Glareshield		<b>Part Number:</b>	D3690-1
<b>Inspection Dwg:</b> D3690 <b>Rev:</b> C		<b>Page 1 of 1</b>	

**FIRST ARTICLE INSPECTION CHECKLIST**  
**THERMOFORMING SECTION**

Description	Accept	Reject	Method of Inspection	Comments
Shape Definition	✓			
Free of visual flaws (bumps, cracks, voids, etc.)	✓			

<b>Measured by:</b>	<i>DL</i>	<b>Date:</b>	<i>12/06/14</i>
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**TRIMMING SECTION**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.20	+/-0.030	<i>2.23</i>	✓			
3.55	+/-0.030	<i>3.58"</i>	✓			
0.040	Min	<i>0.0494</i>	✓			

<b>Measured by:</b>	<i>DL</i>	<b>Date:</b>	<i>12/06/20</i>
<b>Audited by:</b>	<i>JB</i>	<b>Date:</b>	<i>12/06/20</i>
<b>Preliminary Approval:</b>		<b>Date:</b>	

Rev	Date	Change	Revised by	Approved
A	08.09.12	New Issue	KJ/DL	<i>DL</i>
B	10.11.17	Dwg Rev updated	KJ	<i>DL</i>

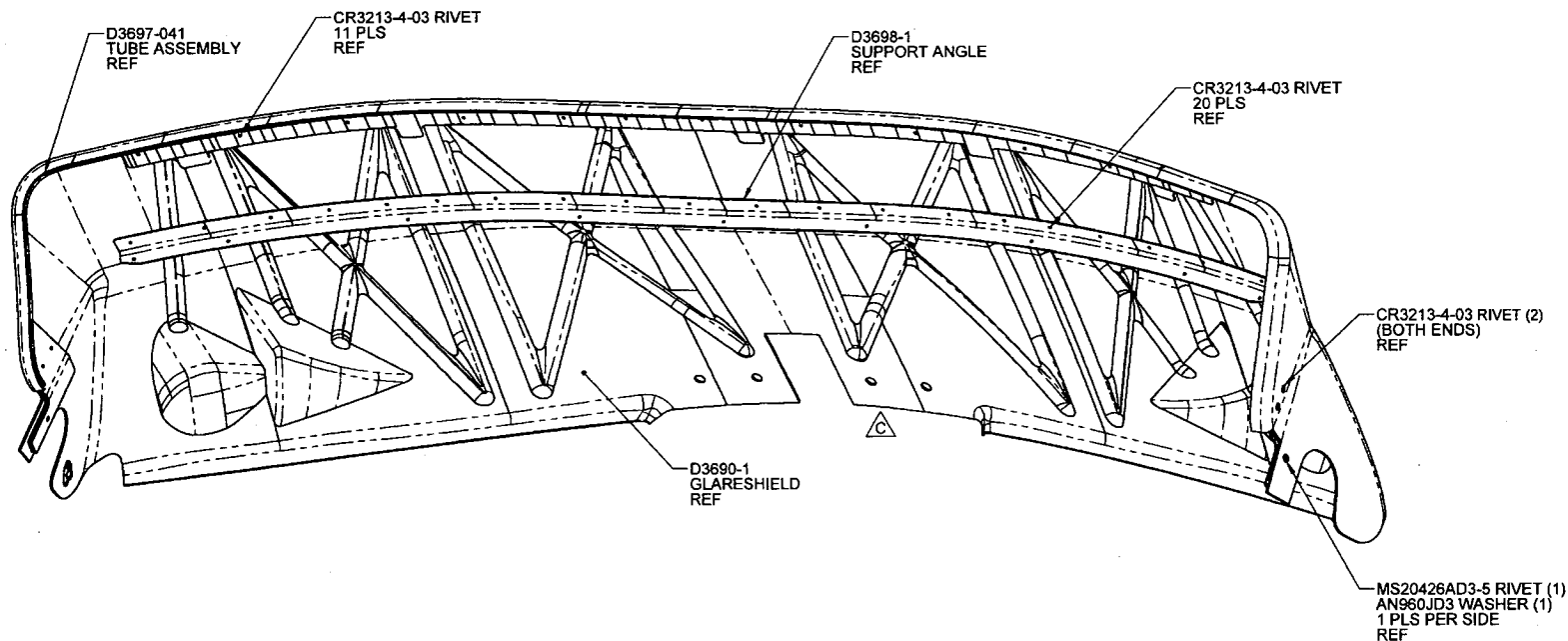
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# PART LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3690-041	GLARESHIELD ASSEMBLY
1	D3690-1	GLARESHIELD
1	D3697-041	TUBE ASSEMBLY
1	D3698-1	SUPPORT ANGLE
2	AN960JD3	WASHER (OR NAS1149DN332J)
2	MS20426AD3-5	RIVET
35	CR3213-4-03	RIVET

## D3690-041 GLARESHIELD ASSEMBLY

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 841079

RELEASED  
08-09-02

C	SHEET 1 PL MS20426AD3-5 RIVET WAS MS20426AD3-4, CR3213-4-03 RIVET WAS MS20470AD3-4, WASHER QTY WAS 6 (VIEWS UPDATED ACCORDINGLY). RIVETS ON SHEET 1 CHANGED TO REF QTY. RIVETS ON SHEET 2 CHANGED TO "HARD" CALLOUTS. SHADING REMOVED FROM ALL VIEWS FOR CLARITY.	AJS	08.09.02
B	ADD FINISH COAT & 1.0 TYP. SHEET 2 ZONES A,8 & C,5: ADD MIN THICKNESS. SHEET 3 ZONE A,8	RF	08.06.24
A	NEW ISSUE	RF	08.05.26
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3690	SHEET 1 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GLARESHIELD ASSEMBLY	NTS
DATE	08.09.02	COPYRIGHT © 2008 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

R12-05-2

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

TRANSFER DRILL  $\varnothing 0.128$   
FROM D3698-1 TO D3690-1  
INSTALL  
CR3213-4-03 RIVET, 20 PL  
RIVET HEAD ON GLARESHIELD  
OUTSIDE SURFACE

D3690-1  
GLARESHIELD  
REF

TRANSFER DRILL  $\varnothing 0.098$   
FROM D3697-041 TO D3690-1  
INSTALL  
MS20426AD3-5 RIVET  
AN960JD3 WASHER (ON GLARESHIELD  
OUTSIDE SURFACE)  
1 PER SIDE

TRANSFER DRILL  $\varnothing 0.128$   
FROM D3697-041 TO D3690-1  
INSTALL  
CR3213-4-03 RIVET 2  
BOTH ENDS

0.14  
REF

# SECTION A-A

EQUAL DIMENSION  
AT BOTH ENDS

TRANSFER DRILL  $\varnothing 0.128$   
FROM D3697-041 TO D3690-1  
INSTALL  
CR3213-4-03 RIVET, 11PL  
RIVET HEAD ON GLARESHIELD  
OUTSIDE SURFACE

TRANSFER DRILL  $\varnothing 0.144$   
AT THIS LOCATION  
FROM D3697-041 TO D3690-1  
(NO HARDWARE INSTALLED)

D3698-1  
SUPPORT ANGLE  
REF

## D3690-041 GLARESHIELD ASSEMBLY

### NOTES:

- 1) CENTER D3697-041 AND D3698-1 ON TO D3690-1
- 2) FINISH: PAINT D3690-041 ASSY FLAT BLACK USING BASF GLASURIT 22 LINE CODE SFA39.50 PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) IDENTIFICATION: ETCH WITH DART P/N D3690-041 & B/N ON INSIDE OF PART
- 5) WEIGHT: 2.98 lbs
- 6) MASK HATCHED AREAS (6 PLS) ON INSIDE OF THE PART PRIOR TO PAINTING

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3690	SHEET 2 OF 3
APPROVED		TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
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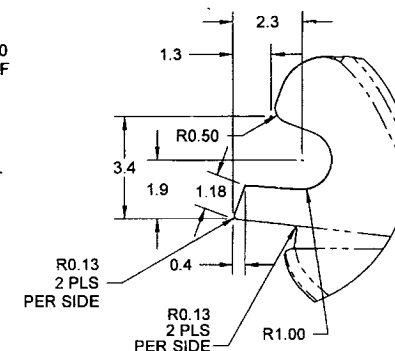
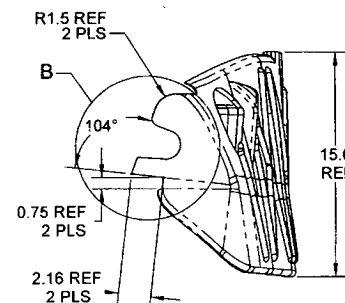
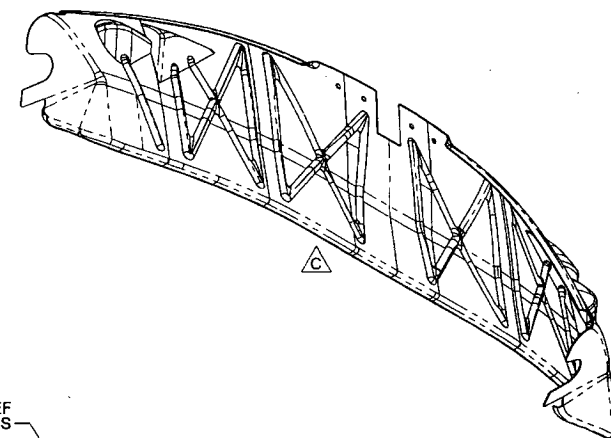
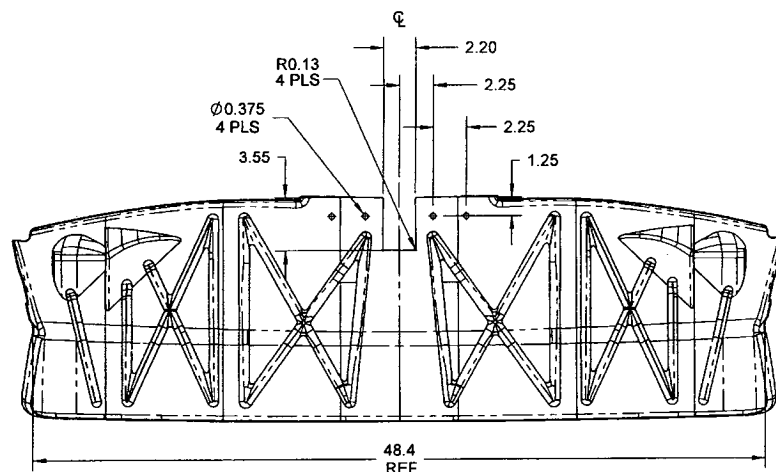
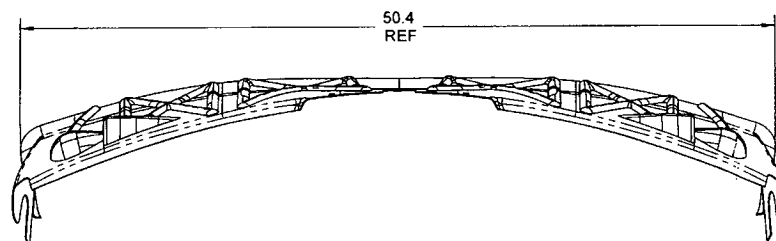
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**D3690-1 GLARESHIELD**

**NOTES:**

- 1) MATERIAL: F6006 SUEDE/POLISHED 701 BLACK FLAT LEXAN SHEET 0.093 THICK  
(REF DART SPEC MLEXS.093-F6006-02)
- 2) TOOLING: THERMOFORM PER MOLD DT9010 PER QSI 022  
TRIM PER MOLD SCRIBE LINES EXCEPT WHERE NOTED
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 2.5 lbs
- 9) MINIMUM THICKNESS AFTER FORMING IS 0.040

84079

**RELEASED**  
08-09-02

**DETAIL B**  
SCALE 2X

THIS VIEW FOR REFERENCE ONLY

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D3690</b>	SHEET 3 OF 3
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